

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618510012-7"

IL'INA, T.B. BCG and streptomyoin therapy in rabbits of ostscarticular tuberculosis caused by Mycobacterium tuberculosis resistant and culosis caused by Mycobacterium tuberculosis resistant and culosis experiments. Problemble 39 no.3164-68 '61. 1. Iz Leningradskogo nauchmo-issledovatel'skogo instituta khrurgicheskogo tuberculosis (dir. - prof. D.K. Khichilov, nauchmygicheskogo tuberculosi (hyp chlom AMN SSSR prof. P.G. Kornev). Tukovodital' - deptivitel'nyy chlom AMN SSSR prof. P.G. Kornev). (STREPTOMIGIE) (STREPTOMIGIE)

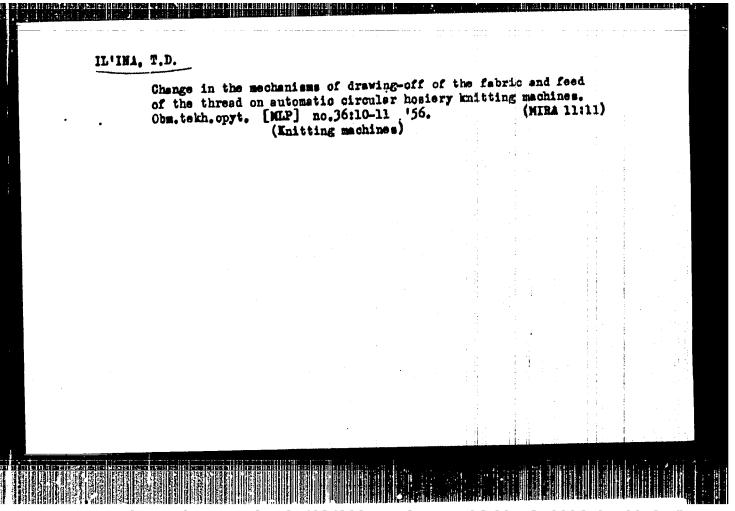
KUCHERYAVYY, F.Kh.; IL'INA, T.B. (Loningrad)

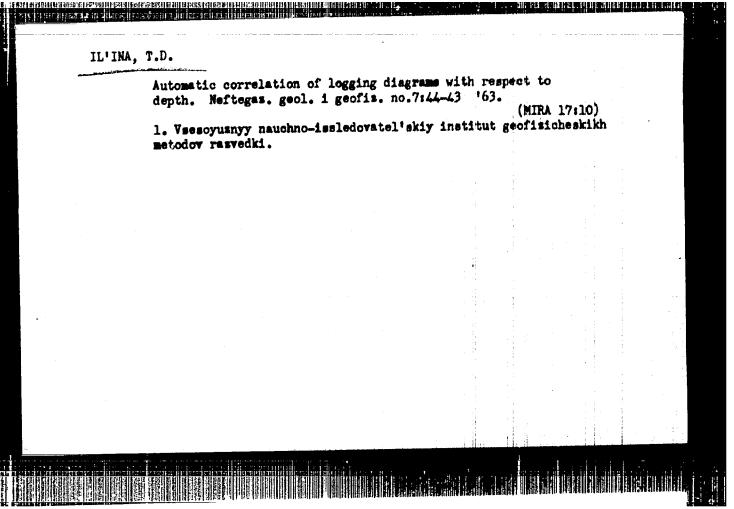
Nonspecific phagocyte activity in experimental bone tuberculosis following the use of pyrogens and etreptomycin. Fat.fisiol. i eksp. terap. 7 no.2163-67 Mr-Ap 63. (MIRA 16:10)

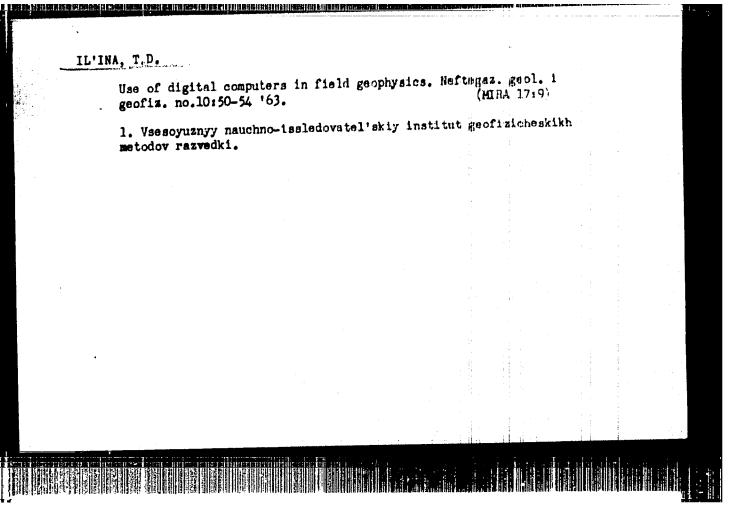
l. Iz laboratorii eksperimental'noy patologii i terapii (rukovoditel' - kand.med.nauk F.Kh.Kucheryavyy) Leningradskogo instituta khirurgicheskogo tuberkuleza.

(BONES-TUHERCULOSIS) (PHAGOCYTOSIS)

(FEROGENS) (STREPTOMYCIN)







IL'INA, T.D.; KULINKOVICH, Al's.; PER'KOV, N.A.; SOKHRAHOV, N.B.

Present status of and prospects for the development of the interpretation of geophysical data on boreholes using computers.

Sov. geol. 6 no.5:121-125 My '63. (MIRA 16:6)

1. Veesoyusnyy nauchno-issledovatel skiy institut genfisi-cheskith metodov rasvedki. (Logging Geology)...Electronic equipment)

(Electronic computers)

IL'INA, T.G.

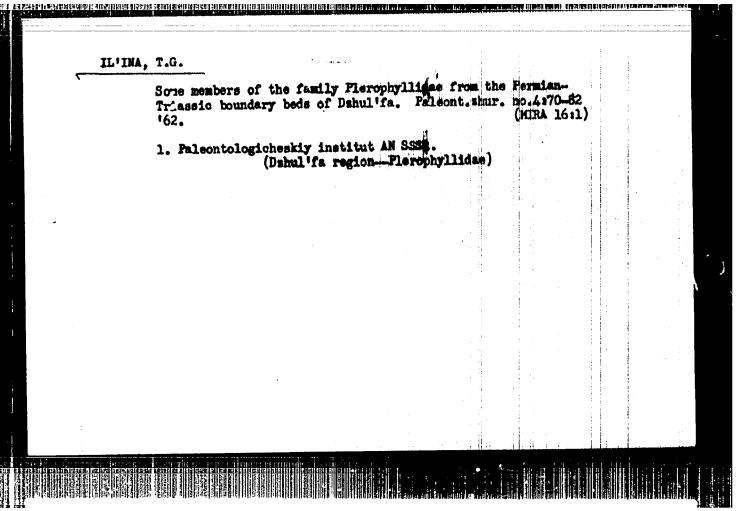
Blind spot in brucellosis. Vest.oft. 30 no.1:10-11 Jan-Feb 51.(GIML 20:6)

1. Assistant. 2. Of the Bye Clinic (Director -- Honored Worker in Science Usbek SSR Prof. P.F. Arkhangel'skiy), Tashkent Medical Institute imeni V.M. Molotov.

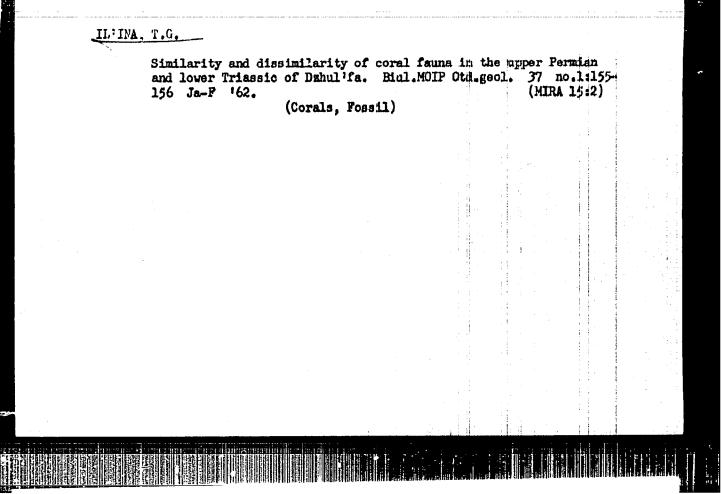
IL'INA, T. G.

"Morphology of the Blind Spot in Brucellosis Patients." Cand Fed Sci.
Tashkent State Medical Inst imeni V. M. Molotov, Tashkent, 1955. (KL, No 17, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).



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IL'INA, T.G.

Recent data on the origin of hexacorals. Dokl. AN SSSR 148 no.18
194-196 Ja '63.

1. Prodstavleno akademikon Ya.A. Orlovym.
(Corals, Possil)

OR RELEASE: 04/03/2001

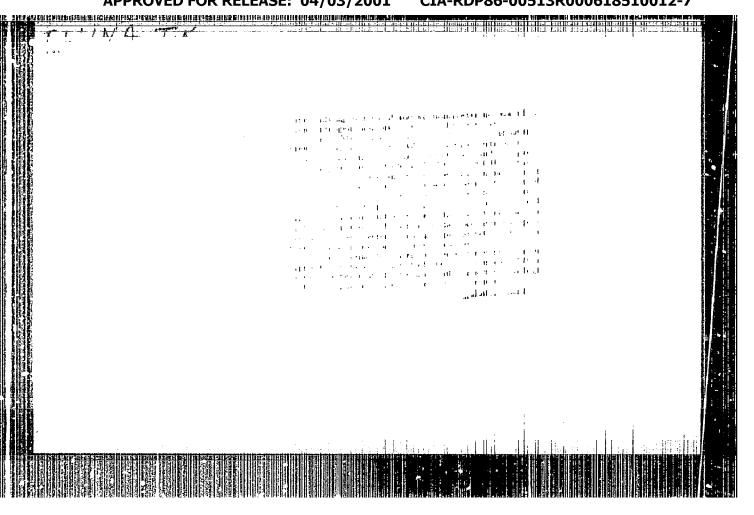
CIA-RDP86-00513R000618510012-7"

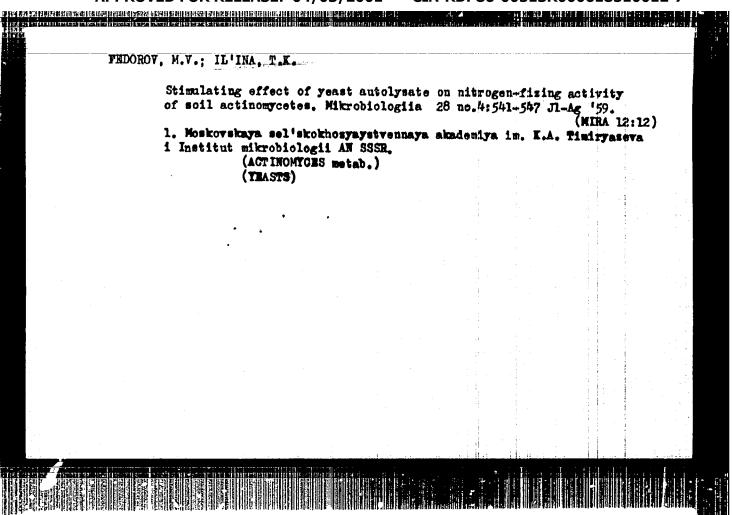
IL'INA, Tamara Gennadiyevna; SARYCHEVA, T.G., otv. red.

[Late Permian and Early Triassic tetraradiate corals in Transcaucasia] Chetyrekhluchevye korally pozdnei permi i rannogo triasa Zakavkaz'ia. Moskva, Rauka, 1965. 103 p. illus. (Akademiia nauk SSSR. Paleontologicheskii institut. Trudy, no.107).

(HIRA 18:7)

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618510012-7





FEDOROV, M.V.; IL'INA, T.K.

Relation of individual forms of soil actinomycetes grown on nitrate and molecular nitrogen to various carbon sources.

Mikrobiologiia 29 no. 4:495-500 JL-Ag '60. (MIRA 13:10)

1. Moskovskaya ordena Lenina sel'skokhozyaystvennaya akademiya imeni K.A. Timiryazeva i Institut mikrobiologii AN SSSR.

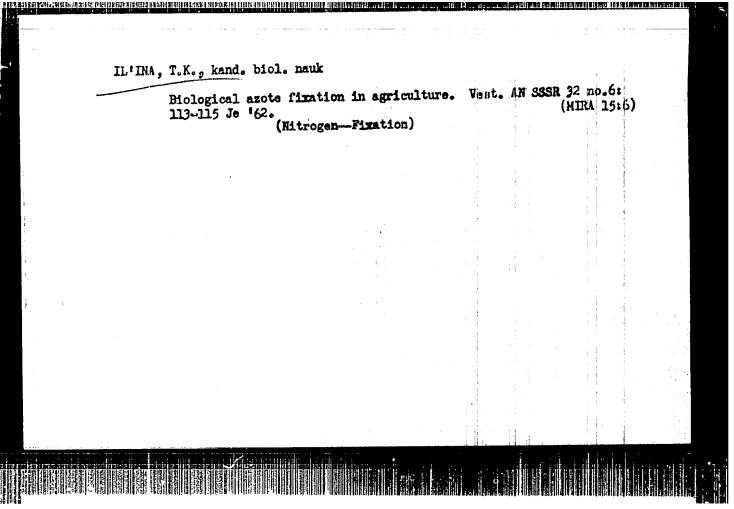
(ACTINOMYCES) (NITROGEN—FIXATION)

PEDOROV, M.V., prof., doktor biolog.nauk; IL'INA, T.K., kand.biolog.muk

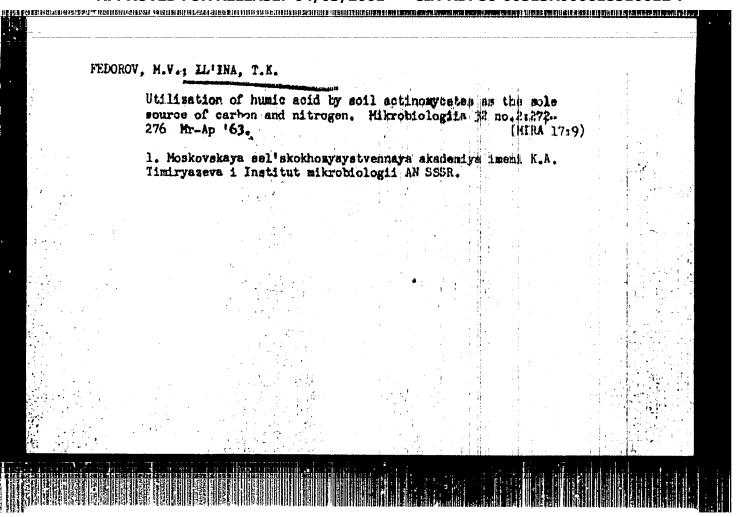
Availability of the carbon and nitrogen of humic acids to certain
sof: actinomyces. Isv. TERNA no.1:42-48 '61. (MIRA 14:3)

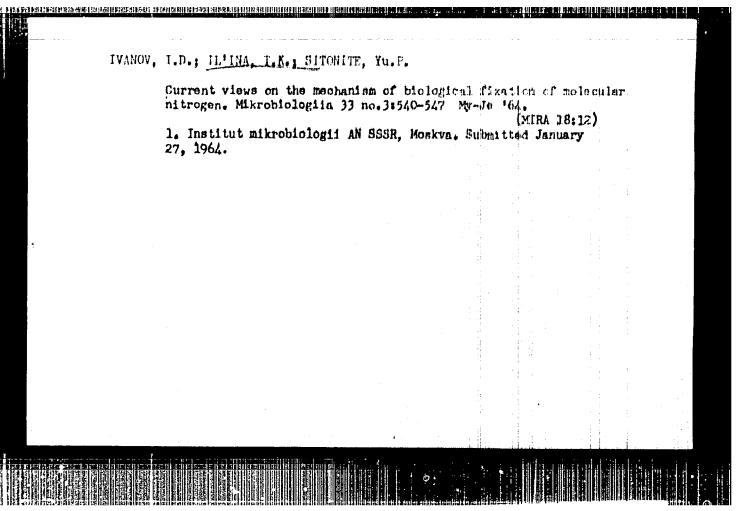
1. Moskovskaya ordena Lenina sel'skothosyaystrennaya akademiya
im. K.A. Timiryaseva (for Fedorov). 2. Institut mikrobiologii
Akademii nauk SSSR (far Il'ina).

(ACTINOMICES) (BUMIC ACID)

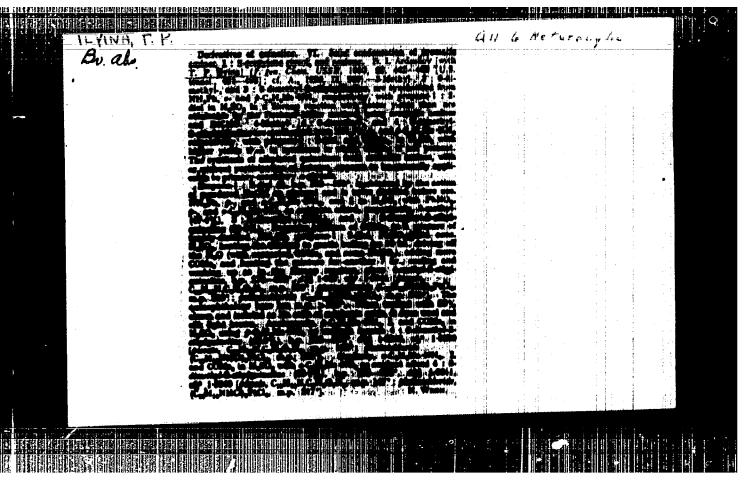


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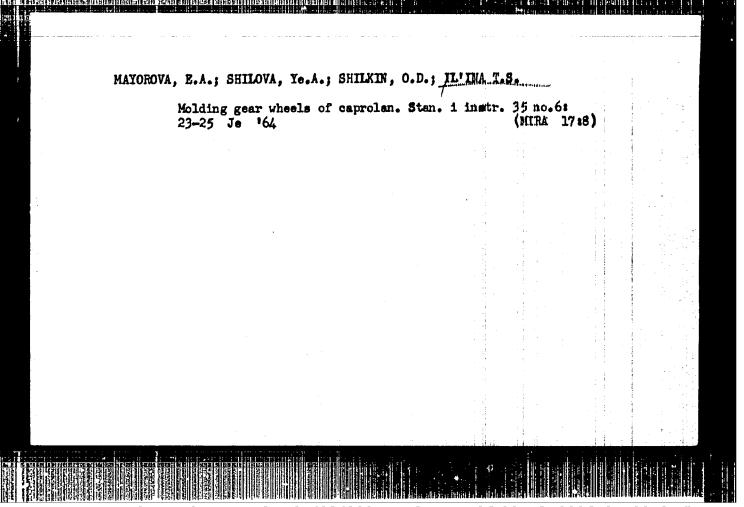
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IL'INA, T. S.: Master Biol Sci (diss) -- "The biological properties of strains of the grippe virus isolated in Tashkent". Tashkent, 1958. 14 pp (Tashkent State Med Inst, Tashkent Sci Res Inst of Vaccines and Sera of the Hin Health USSR), 260 copies (KL, No 8, 1959, 135)

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CHERNOVA, V.P.; IL'INA, T.S.

Some clinical and laboratory parallels in influenza during the winter outbreak in 1959. Shor.nauch.trud.TashGMI 22:109
115 '62. (MIRA 18:10)

1. Karedra infektsionnykh bolezney (zav. kafedroy - prof. T.Kh. Nadzhaiddinov) Tashkentekogo gusudarstvennogo meditulnskogo instituta i Institut vaktsin i syvorotok (direktor - kand.biol. nauk A.B.Inogamov).

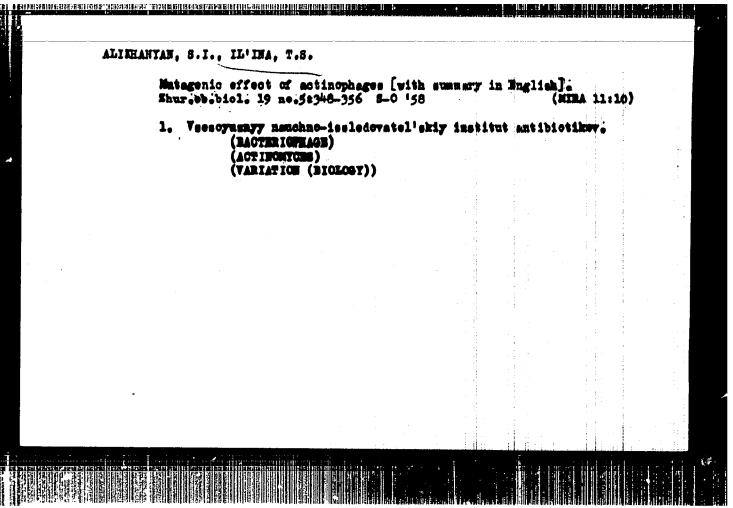
IL'INA, T.S.; ZHDANOV, V.G.

Use of actinophage for the production of a phage-remistant strain of arythromycin producer. Mikrobiologiia 33 no.3:516-521 My-Je 164. (MIRA 18:12)

1. Institut atomnoy energii imeni I.V.Kurchatova AN SSSR. Submitted April 21, 1963.

T DATE EN LEGENTE GEGET GETTER HOTTER FRESTE EGGIT. DATEN GEGET STOOD BENEFIT HER WORM WENT HE HELD HELD HELD HE ILLENA, T.S. USSR/Chemistry - Analytical chemistry Card 1/1 Pub. 116 - 18/25 Authors Kul berg, L. M., and Ilyna, T. Title New fluorescent reaction for the discovery Periodical Ukr. khim. zhur. 21/1, 97 98, 1955 Abstract The formation of o-hydroxy bentakduzine, which flugresces with a yelloworange color, was used as the bases for the lievel deplicat of a new fluorescence reaction method best suitable fin discover of hydrazine. The new reaction made it possible to discorde 5.10-10 g of hydrazine during maximum dilution of 1 | 100. The readillion was found as being highly specific and capable of detecting hydrazing an the presence of nitrites, nitrates, szides, hydroxylamine, apmonfrmsalts and strong reducing agents. Five References: 4 USSR and 1 USA (1937-1951). Table. Institution The N.G. Chernishovskiy State University, Fiddil ty his Analytidal Chem., Saratov Submitted December 1, 1953

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AUTHORS:

Alikhanyan, S. I., Il'ina, T. S.

\$07/20-120-5-53/67

TITLE:

The Mutagenic Effect of Actinophage (Mutagennoye deystriye

aktincfaga)

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PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr. 5,

pp. 1122 - 1125 (USSR)

ABSTRACT:

In 1952 Zinder and Lederberg (Tsinder and Lederberg, Ref 6) for the first time observed the phenomenon of transduction in Salmonella. It is based on the capability of phage to transfer in some cases the individual properties of those bacteria on which the reproduction of the phage has hitherto taken place. Several authors have proved that on the occasion of the infection with phage only desoxyribonucleic acid enters the bacteria cell while the protein contained in the phage remains outside. In this connection the authors wanted to investigate the charge-ability of Actinomycetes under the influence of actinophage. A survey of publications on already known evidence is given (Refs 1-4). On table 2 data are given on the apontaneous frequency of mutations in the race H-6 of Actinomyces olivaceus after a joint

Card 1/3

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The Mutagemic Effect of Actinophage

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breeding with actinophage Nr 2671 and 8238. As can be seen from it the frequency of mutations attains 97,2% under the influence of the former, these mutants, however, are of another type than those formed under the action of phage Nr 1 and 2 (Tables 1 and 2). The mutations formed under the influence of actinophage Nr 8238 show a deviating frequency and deviating morphologic characteristics. Thus, it can be seen that the action of all three actinophages on the race H-6 is deeply specific. It can be assumed that the phenomenon described above is based on a certain similarity with the transduction in bacteria. In the experiments described here no distinctive transfer of the gulture of the host on which the phage multiplied took place. However, certain morphologic variabilities of different type were obtained under the influence of variants of the same phage (Nr 1) which was bred on different cultures of Actinomycetes. These changes were not caused by a damaging action of the actinophage. Some groups of the changed colonies reproduced the mutants which form under the influence of ultraviolet rays. It is possible that, if actinophage is bred on a certain culture of Actinomycetes it may become the carrier of a certain genetic information. The latter

Card 2/3

The Mutagenic Effect of Actinophage

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is then transferred to the culture of Actinomydates infected by these phages. There are 3 tables and 6 references, 2 of which

ASSOCIATION:

Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov (All-Union Scientific Research Institute of Antibiotics)

PRESENTED:

March 1, 1958, by V.A. Engel gardt, Member, Academy of Sciences,

SUBMITTED:

February 24, 1958

1. Bacteriophages--Properties 2. Bacteriophages--Benetic effects 3. Bacteria -- Genetic factors 4. Actinomycetales -- Mutations

Card 3/3

PROVED FOR RELEASE: 04/03/2001

IL'INA, T. S. Cand Biol Soi -- (diss) "On the peculiarities of actinophage-induced variability in actinomyces." Mos, 1959. 15 pp (Acad Soi USSR. Inst of Microbiology), 150 copies (KL, 50-59, 125)

-15-

IL'IRA, T.S.; ALIEHANYAN, S.I.

Use of actinophates in the selection of actinomycetes. Antibiotiki 4 no.5:20-23 S-0 '59. (MIRA 13:2)

1. Veccountry mancheo-issledovatel skiy institut antibiotikov. (ACTINOMYCES)
(RACTERIOPHAGE)

ALIEHANYAN, S.I.; IL'IHA, T.S.

The transducing and sutagenic action of actinophages on actinomycotes. Zhur.ob.biol. 20 no.4:269-275 Jl-Ag '59.

1. Vsesoyusnyy nauchno-issledovatel'skiy institut antibiotikov, Moskva.

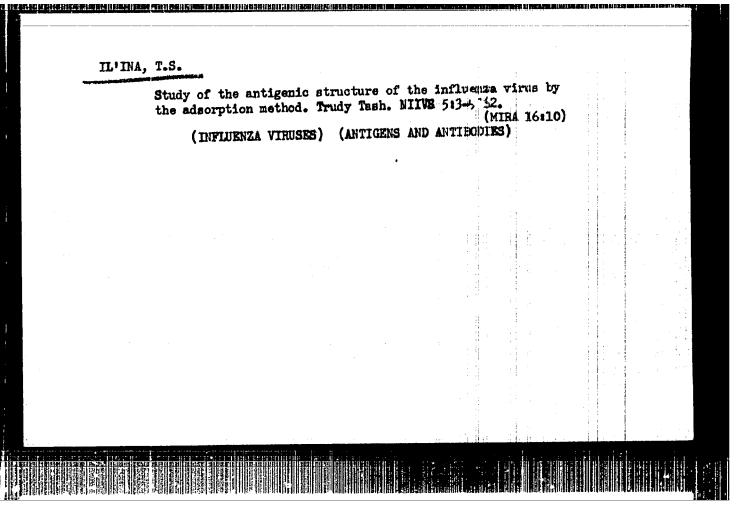
(ACTINOMYCES)
(RACTERIOFMAGE)
(VARIATION (BIOLOGY))

	Use of actimikrobiol.	inophages in the sel no.10:182-186 '61. (ACTINOMYCES)	lection (BACT	of a	ctinomyc EAGE)	otes.	Trud (MIRA	y Inst. 14:7)	
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IL'INA, T.S.; MEVZOS, L.M.; FINOGENOVA, Ye.V.

Study of the state of anti-influencel immunity among the population of the city of Tashkent from 1958 to 1960. Med. shur. Usb. no.2:11-17 F *62. (MIRA 15:4)

1. Is Tashkentskogo nauchno-issledovatel skogo instituta vaktsin 1 syvorotok Ministerstva zdravookhraneniya SSSR (direktor - kand. biologicheskikh nauk A.B.Inogamov). (IMMUNITY) (TASHKENT---INFLUENZA)



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CHERNOVA, V.P.; IL'INA, T.S.

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Some clinical and laboratory parallels in influenza during the winter outbreak in 1959. Sbor.nauch.trud.Tash@MI 22:109-115 [62. (FIRA 18:10)

1. Kafedra infektsionnykh bolezney (zav. kafedroy - prof. T.Kh. Nadzhmiddinov) Tashkentskogo gosudarstvennogo meditsinskogo instituta i Institut vaktsin i syvorotok (direktor - kand. biol.nauk A.B.Inogamov).

MINHAYLOVA, G.R.; KRASNOPOL'SKAYA, K.D.; IL'INA, T.S.

Cytological examination of Actinomyces olivaceum cells infected with actinophage. Mikrobiologia 32 no.2:265-241 Mr-Ap '63.

(MIRA 17:9)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antituotikov.

APPROVED FOR RELEASE: 04/03/2001

YERICKIL N.A., L.I.; IL'IMA, T.S.; KAMENEVA, S.V.; KLYLOV, V.N.;
LOMOVEKAYA, N.D.; MINDLIN, S.Z.; MIKIFOROV, V.N.; SCKOLOVA,
Ye.V.; SUKHODOLETS, I.V.: ZAKHAROV, I.A.; INGE-VECHTCHOV,
S.G.; KVITKO, K.V.; KRIVISSKIY, A.S.; KARASEVICH, Yu.N.;
ENGEL'GARDT, V.A., akademik, glav. red.; ALIKHANYAN, S.I.,
prof., red.; IL'INA, T.S., red.

[Genetics and variation of micro-organisms] Genetika i selektsiia mikro-organizmov. Moskva, Nauka, 1964. 304 p. (MIRL 17:9)

1. Institut atomroy energii imoni I.V.Kurchatova (for Yerokhina, il'ina, Kameneva, Krylov, Lomovskaya, Mindlin, Rikiforov, Sokolova, Sukhodolets). 2. Kafedra genetiki Loningradskogo gosudarstvennogo universiteta (for Zakharov, Inge-Vechtomov, Kvitko). 3. Institut radiatsionnoy i fiziko-khimicheskoy biologii (for Krivisski;). 4. Institut rakrobiologii AN SSSR (for Karasevich).

Transduction of streptorycin resistance in relation to study of the state of heterogeneity in actinoxycetes. Mikrobiological 33 no.4:593-597 Jl-Ag '64. (MIRA 15:3)

1. Institut stomnoy energii imeni Kurchatova.

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618510012-7"

SUKECLARA . v.v.; ILLIENA, E.S.; ALIEBARYAN, S.I.

Genetic mapping of thymins—dependent mutants of Escherichia coli K-12. Genetika no.1:78-88 '65. (MIRA 18:10)

1. Institut atomnoy energii im. J.V. Kurchatova AN SSER, Moskva.

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ALIKHANYAN, S.I.; ILIJNA, T.S.; KALYAYEVA E.S.; KAMENEVA S.V.; SUKHODOLETS, V.V.

Characteristics of Escherichia coli K 12 mutants with immired tymidylic acid synthesizing system. Mikrobiologiia 34 nc.41666-675 Jl-Ag *65. (MIPA 18:10)

1. Institut atomnoy energii imeni I.V.Kurchatova.

CIA-RDP86-00513R000618510012-7 "APPROVED FOR RELEASE: 04/03/2001

IL'INA, T.S.; ALIKHANYAN, S.I.

Burst of phage of Pl kc from Escherichia coli K-12 mutants with disturbed system of thymidylic acid synthesis. Conetika no.3:105-110 8 65. (MIRA 18:12)

1. Institut atomnoy energii imeni I.V.Kurchatova, Hoskva. Submitted May 6, 1965.

APPROVED FOR RELEASE: 04/03/2001

IL'INA, T.S.; KALYAYEVA, E.S.; KAMENEVA, S.V.

Effect of thy and thr mutations on the thymine incorporation in Eacherichia coli K-12 cells. Genetika no.3:119-126 S '65.

(MIRA 18:12)

1. Institut atomnoy energii imeni I.V.Kurchatova, Modkva.

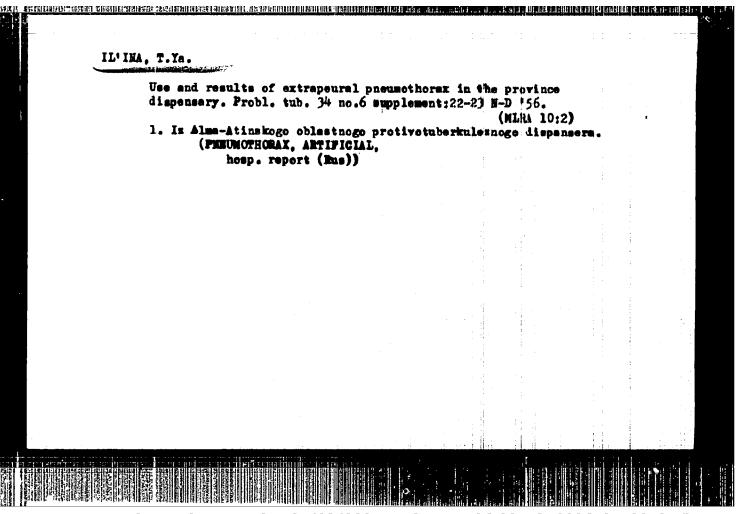
Submitted July 26, 1965.

KATMYKOV. B.N., GREENOVA, V.P., JASTNA, T.S., KISELEVA, T.V.

Preumonia in patients with influenza during the winter outbreak in 1959, aber neuch, trud. TachiMI 223116-424 162.

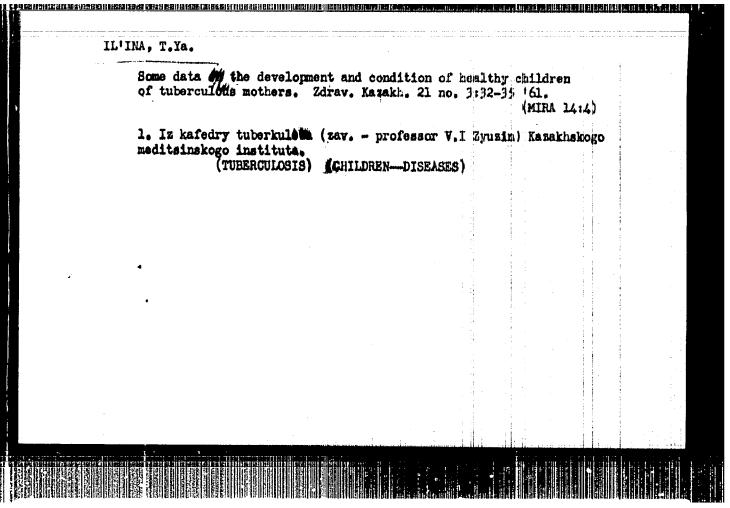
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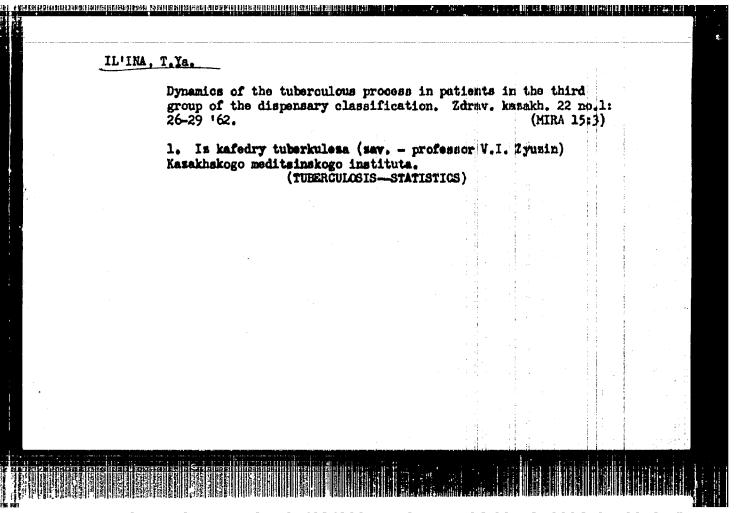
1. Refedre infektsicznykh bolesney (sav. kafednoy T. Nh. Nadzhuidainow) Isahkentskogo gosudarstvennogo meditsinskogo instituta i Institut vaktsin i syvorotok (direktor - kand. biolog. nauk A.B. Mogumov).



IL'IMA, T. Ya., Cand Med Sci — (diss) "Tuberculosis and pregnancy,"
Stalinabad, 1960, 16 pp (Stalinabad State Medical Institute im Abvali
ibin Sino)
(KL, 40-60, 123)

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618510012-7"





IL'INA, T.Ya. Course of pregnancy and labor in patients with pulmomary tuber-culosis. Zdrav. Kazakh. 22 no.10:30-34 '62. (MIRA 17:5) 1. Iz kafedry tuberkuleza (zav.-prof. V.I. Zyumin) Kamakhakogo meditsinskogo instituta.

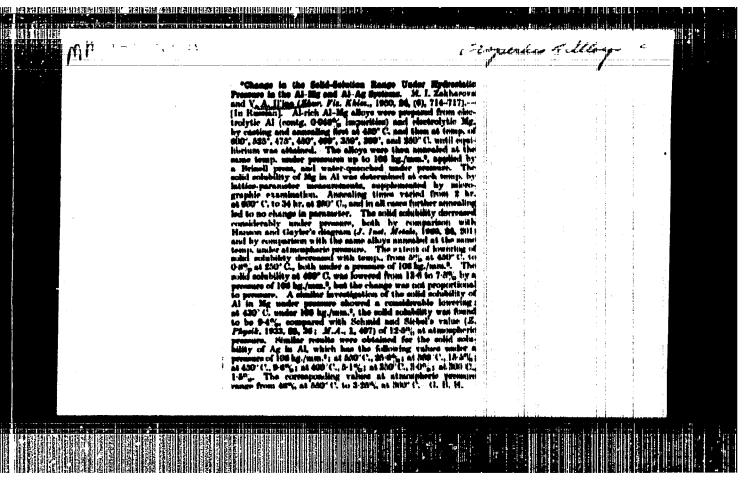
IL INA, V. H.

KLICHSKII, E. E., IL'INA, V. A.

Tissue therapy in pulmonary and laryngeal tuberculoude. Probl. tuberk., Hoskva No. 3, Nay-June 50. p. 57-9

1. Of the Taberculosis Division of the Mailroad Center Hospital issuit Deershinskiy (Head of Division—V. A. Il'in) and of the Lemingred Sanitary-Hygienic Medical Institute (Consultant—Prof. Is. Ye. Klionskiy).

CLIL 19, 5, Nov., 1950



IL'IMA, V.A.; KRITSKATA, V.K., kand. fiz.-mat. nauk; MURDYUNT, G.V.

Distorted lattices in deformed metals and solid solutions, Probl.
metalloved, i fiz. met. no.2:222-231 '51, (MIRA II;4)

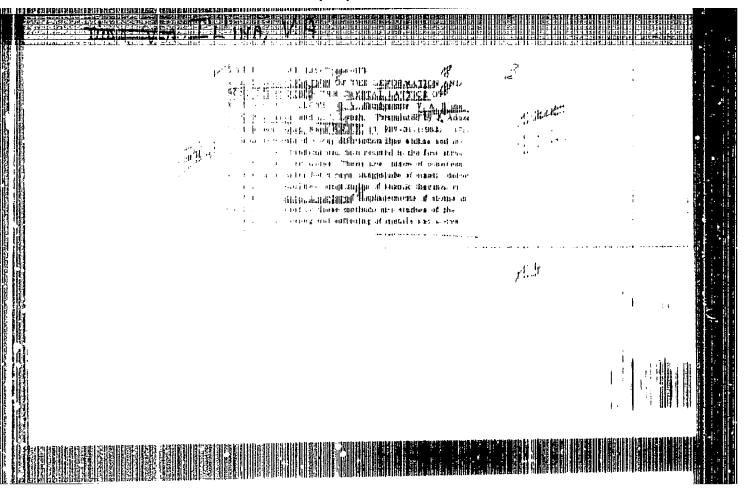
1. Chlem-korrespondent AN SSSR (for Kurdyumov), (Orystal lattices) (Deformations (Mechanics))

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IL'INA, V. A.	Establishes that martensite lattice is characterized by considerable stresses of 3rd kind, terized by considerable displacement of oscillation i.e., considerable displacement of oscillation centers of atoms. Presence of C in soln causes considerable increase in amplitude of thermal considerable increase in amplitude of interpositions and leads to weakening of intersectillations and leads to weakening of intersectillations and leads to be a lattice of setomic bond in comparison to lattice of alpha-iron.	Thok Ak Nauk 888R" vol 85, No 4, pp 773-775 Studies character of distortions of martensite expectal lattice by measuring intensities of expetal lattice by measuring intensities of the state of the original original original contensities of the original o	les les	

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	USSEN/Retailurgy - X-Ray Analysis, Iron 11 Nov 22 Investigation of Changes in the Intensity of X-Ray Interferences of Deformed Iron," V. A. Il'ina, V. E. Kritskaya, Inst of Metallography and Physics of Metals, Takifichak "Dow Ak Hank 5557" Wol 67, No 2, pp 267-210 Discusses results of measuring intensities of X-ray interferences of deformed and underformed iron in Mountaint of the time there is remained in intensity of deformed and underformed iron in Mountain in the time there is remained in intensity of undistorted metal. This conclusion with intensity of undistorted metal. This conclusion is contradictory to data published by 3. L. And the contradictory to data published by 3. L. And indings are disputed by authors. Submitted by Acad I. P. Bardin 12 Sep 52. 24572
	on 11 Nov 52 ensity of X-Ray A. Il'ina, hy and Physics sities of X-ray rmed iron in Mo- n in comparison This conclusion This conclusion 1949), whose 1949), whose 1949), whose 1949722
	IL'INA, V. A.

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Category: USSR/Solid State Physics - Structural crystallography

B-3

Abs Jour: Ref Zhur - Fizika, No 1, 1957, No 1073

Author : Kurdyumov, G.V., Il'ina, V.A., Kritskaya, V.K., Lysak, S.I.

Title : X-ray Diffraction Investigation of the Strains and Binding Forces in the

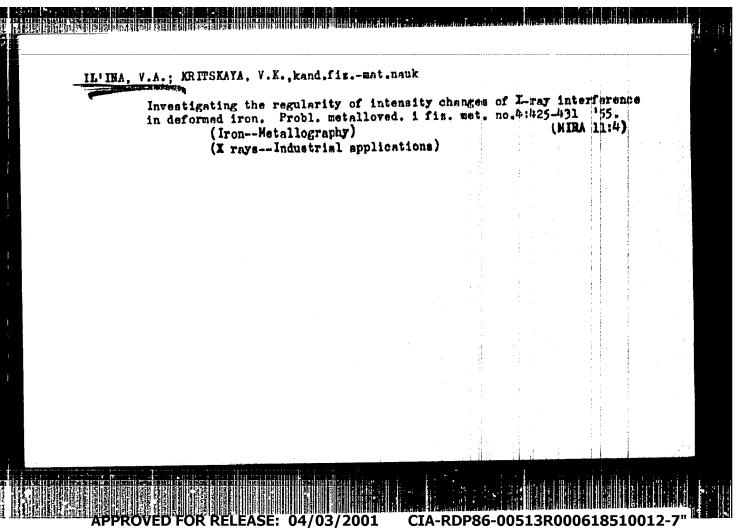
Crystal Lattice of Metals and Alloys

Orig Pub : Probl. metalloved. i fiz. metallov, sb. 4, 1955, 339-359

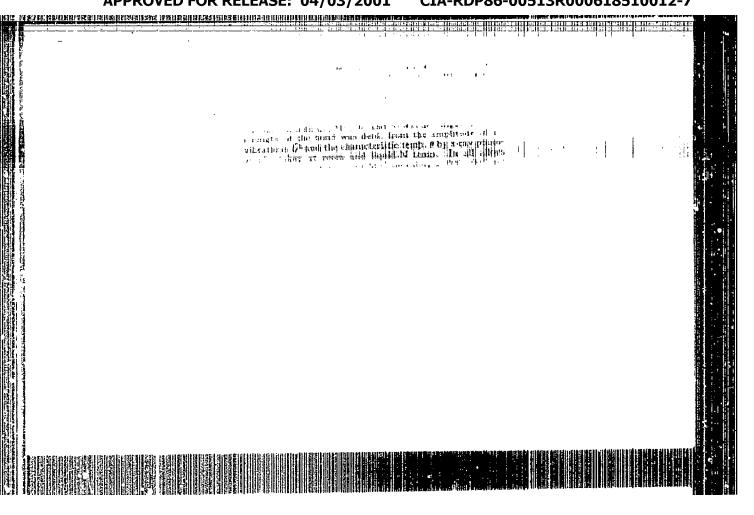
Abstract: Extensive experimental material is reported on the study of x-ray diffraction of strains and interatomic-interaction forces in the crystal lattice of metals and alloys. The characteristic features of the live crystalline structure of metals and alloys in strengthened state are examined. An analysis is made of metals for determining the various changes in the fine crystalline structure and of the properties of the crystals in the micro regions. Bib-

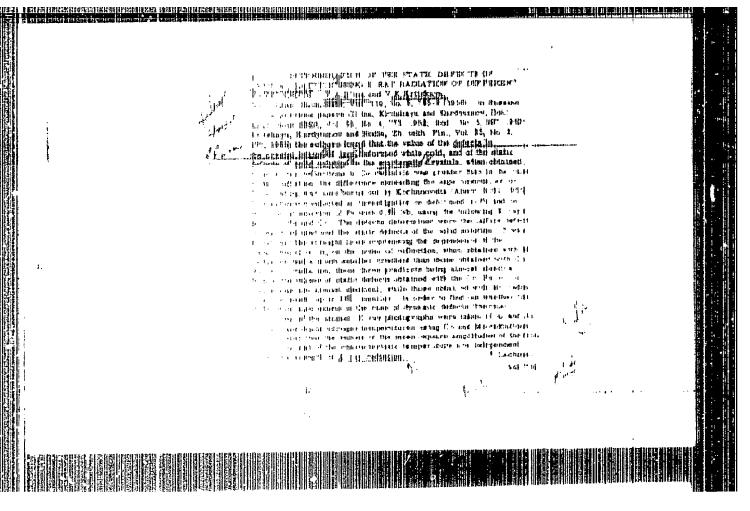
liography, 28 titles.

Card : 1/1



IL'INA, V.A. USSR/ Physics - Metallurgy Pub. 22 - 18/50 Card 1/1 Lleina, V.A., and Kritakaya, V. K. Authors Coupling forces and static distortions in the drystals fer ites of alloyal Title DOK. AN SSSR 100/1. 69-72, Jen. 1, 1955 Periodical Experiments were conducted to determine the effect of a loying elements on the coupling forces of alloyed ferrite crystals (lattices). The method of Abstract measuring the thermal factor of the intensity of X-ray interferences can used. The results are presented in graphs and tables. Eight USSE references (1952-1954). Tables; graphs: Institute of Metallography and Physics of Mata sor that Tanticut (Central Institution: Scientific Resserch Institute of Ferrous Metals. Academician G. V. Kurdyumov. July 26, 1954 Presented by:





'(NA, V 1) 1 1

126-3-5/34

AUTHORS: Il'ina, V.A., Kritskaya, V.K. Kurdyumov, G.V., Osip'yan, YuA. and Stelletskaya, T. I.

Study of the dependence of the bond forces on the state of crystals in metals and solid solutions. (Izucheniye TITLE: zavisimosti sil svyazi ot sostoyaniya kristallov v metallakh i tverdykh rastvorakh).

PERIODICAL: "Fizika Metallov i Metallovedeniye" (Physics of Metals and Metallurgy), 1957, Vol. IV, No. 3, pp. 417-431 (U.S.S.R.)

ABSTRACT: Numerous studies revealed that the interatomic bond forces in a metallic crystal lattice can be influenced by alloying. Depending on the nature of the alloying element, the bond Barlier work of the forces can be increased or decreased. authors (3) and of Iveronova, V.I. and Katsnel'son, A.A. (4) have shown that the concentration of the alloying component is also of great importance, the heat treatment and plastic deformation was also found to influence the characteristic temperature of the solid solution (2,3,5,6). years a considerable amount of work has been published inside and outside the Soviet Union in which anomalies are reported in the changes of certain properties as a result of heat treatment and deformation of numerous solid solutions. On the basis of experimental data of various authors it can Card 1/5

CIA-RDP86-00519R000618510012-7 APPROVED FOR RELEASE: 04/03/2001

1.26-2-35/35 Il'ina, V. A., Kritskaya, V. K., and Kurdyumov, G. V. AUTHORS: On the change of the absolute intensities of X-ray TITLE: interferences of cold deformed iron. (Ob izmenenii absolyutnykh intensivnostey rentgenovskikh interferentsiy kholodnodeformirovannogo zheleza). PERIODICAL: Fizika Metallov i Metallovedeniye, 1957, Vol.5, No.2, pp. 379-381 (USSR) ABSTRACT: In X-ray investigations of deformed metals and alloys (Refs.1-7, 10) it was found that there is a weakening in the intensity of the lines of radiograms obtained from deformed specimens as compared to the intensity of the same lines obtained from non-deformed specimens; the degree of weakening is the more pronounced the higher the order of reflection and complies with the law -B**E**h.2 The work described in this paper aimed at е verifying the correctness of this law and was carried out by means of an ionization method using YPC-50M equipment which incorporated additional equipment for controlling the change in the intensity of the primary beam of X-rays Card 1/2 (In). The investigations were carried out on deformed

CIA-RDP86-00513R00061851001

APPROVED FOR RELEASE: 04/03/2001

126-2-33/35

On the change of the absolute intensities of X-ray interferences of cold deformed iron.

(filed off) and annealed iron powders. The obtained results are entered in a table, p.380 and a graph, Fig.1. Using the ionization method of measuring the absolute intensities, it was again proved that cold plastic deformation brings about a weakening of the intensity of the reflection of the X-rays in accordance with the expontential law

-b∑h²i

There are 1 figure, 1 table and 10 references, 4 of which are Slavic.

SUBMITTED: September 6, 1957.

ASSOCIATION: Institute of Metal Technology and Physics of Metals, TSNIIChM. (Institut Metallovedeniya i Fiziki Metallov TSNIIChM).

AVAILABLE: Library of Congress.

Card 2/2

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618510012-7

126-2-34/35

On the weakening of X-ray reflections of α -iron as a result of extinction.

extinction takes place, the following experiments were made: deformed iron powder was annealed at 500, 650. 700 and 750°C. These powders were used for producing cylindrical specimens of 0.9 mm dia. The X-ray investigation was effected using molybdenum radiation. The X-ray patterns were photometrically evaluated by means of a recording micro-photometer which recorded the curve of intensity distribution on a self-recording Each half of the radiograph electron potentiometer. The intensity was determined was photometered twice. of X-ray interferences from crystallographic planes with the following sums of the square values of the indices: 6, 14, 26, 62. are entered in Table 1. Obtained experimental data After annealing at 500 and 700°C the relative intensity of all the measured interference values did not change; only after annealing at 750°C was a weakening observed of the intensity of the X-ray reflections from the planes (211) and (321). The intensity of the same X-ray interference from the planes Card 2/3 (510) and (732) remained practically unchanged. In Fig.1

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CIA-RDP86-00513R000618510012-7

SOV/137-58-8-17729

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 219 (USSR)

Golubkov, V. M., Il' ina, V. A., Kritskaya, V. K., Kurdyumov, AUTHORS:

G. V. Perkas, M. D.

A Study of Physical Factors Determining the Hardening of TITLE:

Alloyed Fe (Izucheniye fizicheskikh faktorov, opredelyayu-

shchikh uprochneniye legirovannogo zheleza)

PERIODICAL: Sb. tr. In-t metalloved, i fiz. metallow Tsentr. n. -i. in-ta chernoy metallurgii, 1958, Vol 5, pp 433-461

The dimensions of regions of coherent dispersion, D, and the magnitude of distortions of type 2, An/a, in pure Fe and ABSTRACT: a-solid solutions with Ni, Mn, Cr. Mo, V, Co, W, Ti, Nb, and Si were calculated by the width of the reflexes (110) and (220) obtained in FeKa rirradiation and recorded on a URS 501 X-ray spectrometer; the specimens employed were cold-rolled with an 80% reduction and were also cut into pieces

and subjected to quenching. In addition, static distortions, , and the characteristic temperature, 0, were

determined for the same annealed and deformed specimens by the changes in the intensity of spectra photographed under Mo Card 1/2

CIA-RDP86-00513R000618510012-7 **APPROVED FOR RELEASE: 04/03/2001**

\$OV/137 58 8 17729

A. B.

A Study of Physical Factors Determining the Hardening of Alloyed Fe

irradiation at -183° C and at room temperature. Micromechanical tests were conducted concurrently on a model RF-2 machine, and tensile stress-strain diagrams were plotted. Tables with values of D, $\Delta a/a$, $\sqrt{\frac{u^2}{u^2}}$, 0, σ_s , σ_b , and Hy are given. It is shown that the magnitudes of D (2-4x10 or m), $\sqrt{\frac{u^2}{u_{Bt}}}$ ($\simeq 0.120$ angstrom), and 0 were fairly close to common values for almost all alloys that had been deformed. The authors comment on the fluctuations of the $\Delta a/a$ value, which varies from $0.5-2.5x10^{\circ}$ for different alloys and emphasize the correspondence which exists between its magnitude and the tensile-strength characteristics of the deformed alloys. The difference in magnitudes of 0 and $\sqrt{\frac{u^2}{u_{Bt}}}$ of alloys in the annealed state is also pointed out. The mechanism of deformation and the effect of the factors indicated above on hardening of alloyed Fe are discussed. Bibliography: 37 references.

- 1. Iron alloys--Physical properties
- 2. Iron alloys-Hardening
- 3. Mathematics

Card 2/2

SOV/137-59-1-948

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 129 (USSR)

AUTHORS: Il'ina, V. A., Kritskaya, V. K., Kurdyumov, G. V., Osip'yan, Yu. A.,

Stelletskaya, T. I.

TITLE: Study of the Dependence of the Bonding Forces on the State of

Crystals of Metals and Solid Solutions (Izucheniye zavisimosti sil

svyazi ot sostoyaniya kristallov metallov i tverdykh rastvorov)

PERIODICAL: Sb. tr. In-t metalloved, i fiz. metallov Tsentr. n-i. in-ta

chernoy metallurgii, 1958, Vol 5, pp 462-484

ABSTRACT: Ref. RzhMet, 1958, Nr 5, abstract 10396

Card 1/1

APPROVED FOR RELEASE: 04/03/2001

AUTHORS: Golubkov, V.M., Il'ina, V.A., Kritskaya, V.K., Kurdyumov, G. V. and Perkas, M.D.

Study of the Physical Factors which Determine the TITLE:

Hardening of Alloyed Iron (Izucheniye fizicheskikh

faktorov, opredelyayushchikh uprochmeniye legirovannogo

zheleza)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1958, Vol 5, Nr 3,

pp 465-483 (USSR)

ABSTRACT: This paper is devoted to the study of the physical. factors which determine the hardening of a-iron alloyed

with various elements; considering only hardening which is due fully to changes in the fine structure of the α-solid solution without any changes in its chemical In the experiments iron was used alloyed composition. with various elements; the chemical compositions of the respective binary alloys of iron are entered in Table 1, p.465. The material was produced in a high frequency

furnace with ingot weights of 25 kg. All the ingots were subjected to diffusion annealing at 1200°C for twenty hours. After homogenization annealing, the ingots were forged to a square 50 x 50 mm. After forging most of the ingots were annealed for the purpose of obtaining a

Card 1/9 uniform grain size. After forging and annealing, the

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Study of the Physical Factors which Determine the Hardening of Alloyed Iron

> blanks were cold rolled with a total reduction of 80% and from the produced strips flat specimens were cut which were used for measuring the hardness and also for micromechanical investigations. The alloys Fe + 3% Mn, Fe + 4% Ni, Fe + 8% Cr were also handened by quenching in a 10% NaOH solution after the specimens have been heated in a salt bath to 1000 C. The alloys Fe + 3% Mm. Fe + 0.5% Ti, Fe + 0.6% W and non-alloyed iron were also used for studying the influence of step-wise deformation on the changes in the characteristics of the fine structure. Specimens with initial dimensions of 70 x 15 x 8 mm were deformed in the cold state (on a laboratory rolling stand) with reductions of 5, 10, 15, 20, 30, 50, 80 and 90%. The characteristic of the fine structure was also studied on filings obtained from the alloys Fe + 1.84% Co, Fe + 1.8% Mo, Fe + 2.28% V, Fe + 3% Mn, Te + 4% Ni, Fe + 8% Cr. Distortions of the third type and the characteristic temperature were determined predominantly on specimens produced from powders. The fundamental

Card 2/9 methods of studying the influence of alloying elements on

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Study of the Physical Factors which Determine the Hardening of Alloyed Iron

> the hardening of the ferrite were: X-ray structural enalysis and mechanical tests. The authors investigated the relation between the fine crystalline structure of a-iron base solid solutions in the work hardened state and also some of the mechanical properties of these alloys. Hardening of the alloys was achieved by cold plastic deformation as a result of the martensitic γ to α transformation mechanism. For changing the properties of the crystals of α -iron in the micro and sub-micro ranges (properties of the crystal lattice of the α-solid solution), the iron was alloyed by various elements, namely: Si, Ti, V, Cr, Mn, Co, Ni, Nb, Mo, W. By means of X-ray structural methods the following properties of α-phase crystals were studied in the sub-micro regions: static lattice distortions caused by the presence of foreign atoms in the lattice; dynamic displacements of the atoms during thermal oscillations and the characteristic temperature; magnitude of the elastic deformation of the lattice caused by cold plastic deformation. As characteristics of the fine

Card 3/9 crystalline structure of the alloys in the hardened state the following were applied: size of the regions of the

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Study of the Physical Factors which Determine the Hardening of Alloyed Iron

coherent scattering of X-rays (mosaic block), distortions of the second type and of the third type. The mechanical properties of the micro-volumes were characterised by the hardness, the yield point and the strangth values. The results led to the following conclusions: 1. A characteristic feature of alloys in the hardened state obtained by a high reduction in the cold state or as a result of the γ to α martensitic transformation is the low value of the regions of coherent scattering of X-rays. The size of these regions for all these alloys is within the limits of 200 to 400 A. The observed difference in the size of the blocks is near to the limit of the error in measuring them. However, the strength characteristics change within wide limits on changing over from one alloy to another (hardness H_V between 172 and 340; o_s between 54 and 113 kg/mm²). Thus, the great difference in the resistance to deformation of various alloys in the hardened state cannot be attributed to changes in the sizes of the blocks. Card 4/9 2. The presence of various elements in the solid solution

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126-5-3-12/31 Study of the Physical Factors which Determine the Hardening of Alloyed Iron

influences to a considerable extent the type II distortions (non-uniform micro-stresses) in deformed as well as in hardened alloys. A correspondence exists between the magnitude of these type II distortions and the strength values of alloys in the hardened state.

3. High degrees of plastic deformation bring about considerable type III distortions. In the investigated solid solutions considerable displacements of the atoms take place in alloys in the annealed state, which is caused by the presence in the atom lattice of dissplved elements; varied between 0.058 and 0.120 h (up being the magnitude of the static displacements of the atoms). After deformation with a high degree of reduction in the cold state (filings) the magnitude of up increased approximately

to the same level (about 0.100 to 0.120), which is near to the level of type III distortions in cold deformed non-alloyed iron. The higher the value of $\sqrt{\bar{u}_{cm}^2}$ for the

Card 5/9"equilibrium" solid solution, the smaller was the change

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Study of the Physical Factors which Determine the Hardening of Alloyed Iron

in this magnitude as a result of the deformation.

4. After hardening of the alloyed iron to martensite, the magnitude of the static displacements did not increase. Thus, in alloys hardened by means of martensitic transformation no type III distortions occur, although the strength characteristics approach those of materials deformed in the cold state. This could be seen particularly clearly on specimens of pure iron, hardened to produce martensite. No type III distortions were detected and hardening, block sizes and type II distortions were on the same level as in the case of iron deformed in the cold state. Consequently, presence of type III distortions at least of a magnitude detected in measurements by means of intensive X-rays is not a necessary condition for obtaining a high resistance to deformation.

5. Investigation of the fine crystalline structure as a function of the degree of plastic deformation carried out on pure iron and on some solid solutions has shown that with increasing degree of deformation the hardness, the type II and type III distortions increase, whilst the sizes of the

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Study of the Physical Factors which Determine the Hardening of Alloyed Iron

blocks decrease. These characteristics change most rapidly for low degrees of deformation; for deformations of 30 to 70% the change of these characteristics is slow. For higher degrees of deformation the speed of the change in the characteristics increases again. The behaviour of the metal in the case of very high degrees of plastic deformation requires further detailed investigation. 6. The obtained results permit the conclusion that breaking up of the regions of coherent scattering is a necessary condition for increasing the resistance to deformation of the metals (in the case of the "sliding" mechanism of plastic deformation). The differences in the absolute magnitudes of the characteristics of the resistance to deformation for various metals and solid solutions is due mainly to the differing properties of the crystals in the micro and sub-micro regions (character and force of the bond, static distortions and other deviations from the regular periodicity of the lattice) and not by changes in the size of these regions. Card 7/9 The established correspondence between the resistance to

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126-5-3-12/31 Study of the Physical Factors which Determine the Hardening of Alloyed Iron

deformation and the magnitude of type II distortions should not be taken as an indication of the major role of these distortions from the point of view of hardening. It can be assumed that the magnitude of these distortions (non-uniform elastic deformations of the micro-regions) is itself due to the properties of the crystallites of the given material. From this point of view the magnitude of type II distortions serves as an evaluation of the limit of elastic deformation of the micro-regions and can be considered as being a definite characteristic of the properties of the crystallites of a given substance. It is also possible that the observed type II distortions influence the resistance to deformation causing an increase in the degree of deorientation of the blocks. The experimental data obtained in the here described work on the relation between the fine structure and the strength of a material permit establishing certain relations governing these phenomena and leads to a number of new problems, the elucidation of which by further Card 8/9 experiments is important from the point of view of

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Study of the Physical Factors which Determine the Hardening of Alloyed Iron

understanding the nature of strength and hardening (work hardening) of metals and alloys.

There are 6 figures, 6 tables and 38 references,
29 of which are Soviet, 9 English.

ASSOCIATION: Institut metallovedeniya i fiziki metallov (TsNIIChM)
(Institute of Metallography and Metal Physics
TsNIIChM)

SUBMITTED: December 4, 1956

1. Iron alloys--Hardening 2. Iron alloys--Physical properties 3. Iron alloys--X-ray analysis 4. Iron alloys--Crystal structure

Card 9/9

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24(2), 21(7)

SOV/126-7-2-12/39

AUTHORS: Batenin, I. V., Il'ina, V.A., Kritskaya, V.K. and

Sharov, B.V.

TITLE:

On the Effect of Neutron Irradiation on the Fine

Crystalline Structure of Metals and Alloys (K voprosu

o vliyarii neytronnogo oblucheniya na tonkuyu kristallicheskuyu strukturu metallov i splavov)

PERIODICAL: Fizika Metallov i Metallovedeniye, 1959, Vol 7, Nr 2, pp 243-246 (USSR)

ABSTRACT: The metals investigated were Fe, Cr, Ni and Cu and the solid solutions were Fe-Ni, Fe-Cr, Fe-Mn, and Fe-W. Specimens were made up of each of these materials, their size being 20 x 10 x 2 mm. As a preliminary step before the irradiation all the specimens were annealed at the following temperatures: Ni and Cu at 400°C (30 minutes), Fe and the alloys Fe-Ni and Fe-Mn at 600°C (2 hours), Fe-Cr and Fe-W at 650°C (2 hours) and Cr at 900°C (2 hours). The specimens thus treated were placed in hermetically sealed aluminium containers and were then irradiated by neutrons. The temperature of the specimens during irradiation did not exceed 80°C. The neutron flux Card 1/2 was 10²⁰ neutrons/cm². The structure of the irradiated

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On the Effect of Neutron Irradiation on the Fine Crystalline Structure of Metals and Alloys

metals and alloys was studied by X-ray analysis. It was found that in the majority of specimens the interference lines become broadened after neutron irradiation. Table 2 gives the line widths of the interference lines before and after irradiation. Figs 1 and 2 show the corresponding lines before and after irradiation. These figures refer to copper (Figs 1 and 2) and Fe-Ni respectively. There are 2 tables, 3 figures and 19 references, 5 of which are Soviet, 14 English.

ASSOCIATIONS: ITEF AN SSSR and Institut metallovedeniya i fiziki metallov TsNIIChM (Institute of Metallography and the Physics of Metals TsNIIChM)

SUBMITTED: September 6, 1957

Card 2/2

PPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618510012-7

82882

24,6810

S/120/60/000/02/013/052

AUTHORS:

EO32/E314 yshev. V.K. and Vasichev, B.N., Il'ina

Pliskin, Yu.S.

TITLE:

A Scintillation Counter for the Recording of X-rays

Pribory i tekhnika eksperimenta, 1960, Nr 2, PERIODICAL:

pp 51 - 56 (USSR)

ABSTRACT:

The recording of soft radiation by scintillation counters, e.g. in X-ray diffraction work, is complicated by the fact that the working pulses are comparable in magnitude with the noise pulses. In the present work, this difficulty is removed by using the coincidence circuit shown in Figure la, which is based on two drystal diodes. The points B_1 and B_2 are the inputs connected to the anodes of two photomultipliers, and the output of The resistor R, is much smaller the circuit is at A . than R₁ and R₂. The diode circuits and the resistance

are such that the potential at the point A

determined by the smaller of the potentials at B

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A Scintillation Counter for the Recording of X-rays

Figure 1 shows the output voltage as a function of currents flowing through the resistors R1 = R2 = 12 ks. As can be seen from these curves, a reduction in the current I1 by a factor of 2 leads to a reduction in the output voltage by about 10% (the working point is displaced from M to N). The simultaneous reduction in the currents through R₁ and R₂ by a factor of 2 leads to a reduction in the output voltage also by a factor of 2 (the working point is displaced from M to P). Thus the appearance of a pulse in only one of the photomultipliers leads to a small anticoincidence pulse at the output, while the appearance of simultaneous pulses at the two anodes leads to a large output pulse equal in amplitude to the smaller of the two input pulses. In order to ensure low resolving time, R₁, R₂ must be shunted by parasitic capacitances as small as The diodes \triangle_1 and \triangle_2 are attached to the possible. point A by short pieces of cable, having a natural

Card2/4

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A Scintillation Counter for the Recording of X-rays

forms the input resistor capacitance of 27 pm/m. R3 of a cathode follower which decouples this resistor from the capacitance of the connecting cable. The resolving time of this system, determined with the aid of a delay line, was found to be 10 sec. Figure 2 shows the integral noise spectrum for the two photomultipliers taken separately (Curves a and 6) and the spectrum obtained with the coincidence circuit (Curve B). Figure 3 shows the block diagram of the instrument. pulses from the coincidence circuit are fed into an amplifier in series with a discriminator and the output of the discriminator is recorded either by a scaling unit or by a ratemeter working in conjunction with a pen recorder. The basic circuit of the instrument as a whole is shown in Figure 4. Figure 5 shows the highvoltage rectifier employed. Figure 6 shows the amplifier and the single-channel kicksorter. Figure 7 indicates the method of mounting of the sodium iodide crystals between the photomultipliers. Typical spectra obtained Card 3/4 are shown in Figures 8-10. The efficiency of the counter

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A Scintillation Counter for the Recording of X-rays

was found to be of the order of 90% in a wide wavelength region (between the chromium and molyhdenum radiation). The system can thus be used successfully at all wavelengths normally employed in X-ray analysis.

There are 10 figures, 1 table and 16 references, 8 of which are Soviet and 8 English.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii (Central Scientific-Research Institute for Ferrous Metallurgy)

SUBMITTED: March 9, 1959

APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618510012-7

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1138, 1403, 2308 only

8/020/60/134/004/008/023 B019/B067

21.6200

Batenin, I. V., Illina, V. A., Kritskaya, V. K., Kurdyumov, G. V., Academician, and Sharov, B. V.

AUTHORS:

Effect of Neutron Irradiation on the Crystalline Fine Structure and the Properties of Metals and Alloys

TITLE:

Doklady Akademii nauk SSSR, 1960, Vol. 154, No. 4,

PERIODICAL:

pp. 802 - 805

TEXT: The authors studied the broadening of X-ray interference lines of iron, iron alloys, and copper by neutron irradiation (1020 ... 1021 n/cm2). Prior to the experiments the samples were annealed at 600 ... 650°C. Fig. 1 shows the changes of the (220) - and (400) interference lines of iron and copper due to neutron irradiation, Fig. 2 shows two X-ray photographs of copper (before and after irradiation). In Table 1 the changes in the widths of the interference lines are summarized:

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APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618510012-7

Effect of Neutron Irradiation on the S/020/60/ Crystalline Fine Structure and the Properties B019/B067 of Metals and Alloys

8/020/60/134/004/008/023 B019/B067

Table 1

Waterial		Line w. before irrad.	after	Distortions of II kind $\Delta a/a.10^3$	Block dimensions D"10 cm
Fe	(110) (220)	5.0 7.3	5.6 9.4	0.65	8
Cu	(200)	5.9 11.0	7.0	1	5

X

In Table 2 the changes in microhardness are given. The values are between 26 and 66%, according to material and irradiation intensity. Since the changes in the interference lines are the same as in cold-forming, the authors conclude that neutron irradiation leads to a reduction of the authors conclude that neutron irradiation leads to a reduction of the regions of coherent scattering and to microtensions, as is the case in cold-forming. The solidification of the material is connected with the change in the crystal properties in the microregions. Here, the resistance to dislocations in the lattice is increased. The authors conclude there-

Card 2/3

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Effect of Neutron Irradiation on the \$\frac{5}{020}\frac{60}{134}\phi04\rangle008\rangle023\$\$
Crystalline Fine Structure and the Properties B019\B067
of Metals and Alloys

from that the increase in microhardness is summed by irradiation and coldforming. This exactly applies for iron, as is shown by the diagrams in
Fig. 2. For the anomalous behavior of an iron tungsten alloy (5% W) it is
assumed that irradiation not only causes defects of the type "external
atomic vacancies" as is usually the case but also a change in the
distribution of the tungsten atoms in the direction of the thermodynamically more stable state. There are 3 figures, 2 tables, and 6 Soviet
references.

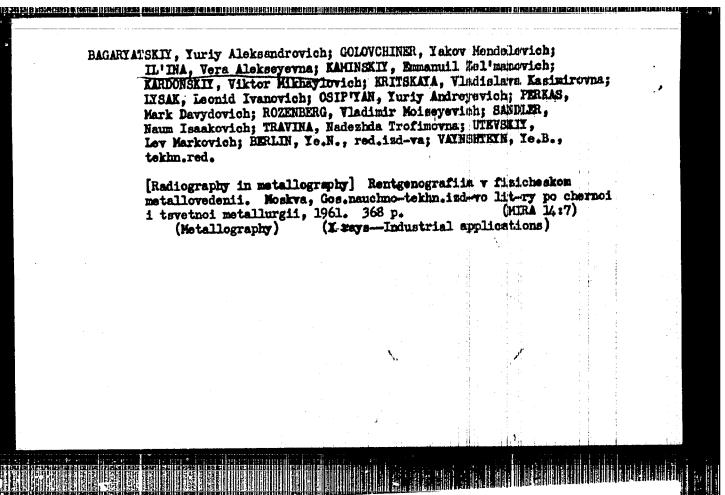
ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki Akademii nauk SSSR (Institute of Theoretical and Experimental Physics of the Academy of Sciences USSR). Institut metallovedeniya i fiziki metallov Tsentral'nogo nauchnovissledovatel'skogo instituta chernoy metallurgii im. I. P. Bardina (Institute of Metallography and Metal Physics of the Central Scientific Research Institute of Nonferrous Metallurgy imeni

I. P. Bardin)
SUBMITTED: June 29, 1960

Card 3/3

PPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000618510012-7



APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618510012-7"

8/717/62/000/007/002/010 D207/1301

Il'ina, V.A., Kritskaya, V.K., Candidate of Physico-Mathe-matical Sciences, Kurdyumov, G.V., Member of the Academy AUTHORS:

of Sciences, USSR, and Osip'yan, Yu.A.

On the nature of changes of Young's modulus and the characteristic temperature due to heat treatment of nickel-based TITLE:

solid solutions

Dnepropetrovsk. Institut metallovedeniya i fiziki metallov. SOURCE:

Problemy metallovedeniya i fiziki metallov, no. 7, Moscow,

1962, 34 - 63

TEXT: Mechanical and other properties of nickel and its alloys were investigated as a function of their heat treatment and in relation to their microstructure. Apart from nickel, the following nickel alloys were studied: 1) With 2.9 % Al, 2), 5.7 % Al, 3) 11.5 % Cu, loys were studied: 1) With 2.9 % Al, 2), 5.7 % Al, 3) 11.5 % No, 4) 10.2 % Co, 5) 9.8 % Co, 6) 10.3 % Fe, 7) 14.5 % No, 8) 5.6 % No, 9) 20 % Cr. All these alloys contained also small amounts of C, Si, Mn, P and S. They were prepared in a high-frequency furnace, subjec-

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ted to homogenizing annealing (24 hours at 1200°0), forged, rolled and drawn into wires of 1 and 0.7 mm diameter. The following properties were studied: Young's modulus and its temperature dependence, shear modulus, internal friction, electrical resistance, Debye-Waller temperature factor, Debye characteristic temperature, and microstructure. Increases of Young's modulus, the Debye-Waller temperature factor and the Debye temperature were observed on heating, following deformation and quenching of the Ni-Cr (nichrome) alloy and on heating, following deformation of the Ni-Al and Ni-Cu alloys. The increases were due to redistribution of the component atoms leading to formation of the K-state. Young's modulus, its temperature dependence, shear modulus and internal friction of the ferromagnetic Ni-Al, Ni-Cu Ni-Co and Ni-Mo solid solutions were all affected by the rate of cooling from 300 - 400°C. Slip lines were observed after quenching of these ferro-magnetic alloys. The changes in the elastic constants and internal friction were due to defects formed on quenching which affected magnetostrictive and elastic properties of the ferromagnetic alloys. There are 26 figures, 2 tables and 30 references: 22 Soviet-bloc and 8 non-Soviet-bloc. The references to the English-lan-Card 2/3

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On the nature of changes of Young's ... S/717/62/000/007/002/010

guage publications read as follows: A. Taylor, and K. Hinton, J. Inst. Metals, 81, 4, 169, 1952-3; F. Nordheim and N. Grant, J. Inst. Metals, 82, 9, 440, 1953-4; S. Siegel and S. Quimby, Phys. Rev., 49, 663, 1936

Card 3/3

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5/126/62/013/001/013/018 E091/E580

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Illina, V.A., Kritskaya, V.K. and Kurdyumov, G.V. AUTHORS:

Study of the intensity of X-ray diffraction lines of TITLE:

cold worked metals

PERIODICAL: Fizika metallov i metallovedeniye, v.13, no.1, 1962,

132-136

In previous papers the authors reported on changes of the integrated intensity of diffraction lines obtained with Mo-Ka It was found by both photographic and ionization methods that plastic deformation of iron caused a decrease in intensity, the effect being the greater the higher the order of reflection. In the present study, the use of a scintillation counter and monochromatic irradiation enabled a more accurate study of changes in the intensity and the shape of lines. Powders of a-iron and other metals, both cold worked and annealed, X-ray diffraction patterns of the same materials were also photographed, and the relative intensities of a number of lines were determined. The results obtained varied; using the photographic method, a weakening of the integrated intensity was observed after deformation, whereas the scintillation Card 1/2

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Study of the intensity of X-ray ... \$/126/62/013/001/013/018

counter did not show any difference between annealed and cold worked a-iron. A comparison of diffraction lines obtained by the photographic method and by using a scintillation counter showed that they differ mainly in their ratio between line intensity and background intensity. In the second case, this ratio is considerably greater; this permits the measurement of the intensity of diffuse lines with a greater accuracy. Hence, a fairly reliable assurement of the intensity of reflections of higher orders becomes possible. There are 3 figures.

ASSOCIATION: Institut metallovedeniya i fiziki metallov Tenlichi

(Institute of Science of Metals and Physics of

Metals TsNIIChM)

SUBMITTED: September 1, 1961

Card 2/2

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DA TERESA INCOMENDAS DE LA COMENCIA DE LA COMPONICION DE LA COMPONICION DE LA COMPONICION DE LA COMPONICION DE ET(=)/EPE(n)=2/T/EPP(t)/EPP(b)/EWA(n)/EWA(d) G1/:ID/G5 5023793 SOURCE CODE: UR G000/E2/000/000/d160/0167 L 9234-66 23193 במבות ACC NRI Kurdyunov. AUTHOR: Butenin, I. V.; Il'ina, V. A.; Kritskaya, Sharov, B. V. 35 Sharov, B. V. TITLE: Investigation of the effect of neutron on the first crystalline structure and properties of metals and alloys SOURCE: Soveshchaniye po probleme Deystviye yadernykh izliachemir na materlahy. Moscow, 1960. Deystviye yadernykh izlucheniy na muterialy (The effect of huclear radiation on materials); doklady soveshchamiya. Moscow, 12d-wi AN SESR, 1962, 160-167 TOPIC TAGS: copper, iron, chromium, iron alloy, nickel containing alloy chromium containing alloy, tungsten containing alloy, metal structure, alloy structure neutron irradiation, irradiation effect ABSTRACT: Copper, iron, and chromium annealed at 400, 600, and 9000, respectively, and Fe-Ni; Fe-Cr; and Fe-W alloys annealed at 600, 600, and 6500, respectively, were irradiated with an integrated neutron flux of about 1020 and 1021 n/cm² at 80C. Irradiation caused a noticeable widening of interference k-ray lines in copper and iron resulting from fragmentation of coherent portions of the crystal line lattice (block) (5 x 10^{-6} and 8 x 10^{-6} cm in copper and linen, respectively) and from the presence of elastic microdeformations (1 x 10^{-3} and 0.65 x 10^{-3} in copper and Card 1/2

ACC NR. AT15023793 iron, respectively). In the Fe-Ni alloy the widening of interfinence lines was much smaller, and none was observed in chromium and in the Fe-w alloys. Irradiation increased the microhardness of all the investigated metals and alloys; the increase varied for different metals and grew larger as flux demanty increased from 1020 to 1021 n/cm2. The microhardness of the irradiated First ally practically did not increase with a cold deformation of up to 60-70 dag, while that of the univadiated alloy increased significantly with deformation, regardless of its magnitude. In the irradiated and unirradiated Fe-Ni alloy the changes in mitcrohardness with cold plastic deformation were practically identical. The initial difference (AH245 units) in the microhardness of the irradiated and unirradiated Fe-H: miley practically disappeared with a 30-40-deg cold deformation, after which the changes in microhardness followed a conventional course. A similar pattern was observed for irradiated and unirradiated chromium, except that the inttint difference (AH) was 30 units and it decreased to zero after a 70-80 deg defformation. Investigation of the dependence of the microhardness on the annealing temperature showed that the nature of the crystal lattice defects created by plantin deformation different substantially from the nature of the defects created by new ron irradiation. former were much more stable; hence, weakening of irradiate metals began at appreciably lower annealing temperatures. Orig art. has: 15 figures. SUB CODE: 11, 20/ SUBM DATE: 18Aug62/ ORIG:REF: 001

"APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618510012-7

KHAMSKIY, Ye.V.; IL'INA, V.A.

Polarographic control of nitroglycerin in diluted solutions containing nitric and sulfuric acids. Zav.lab. 29 no.7:799-802 (MIRA 16:8)

1. Novomoskovskiy filial Gosudarstvennogo nauchno-issledovatel skogo i proyektnogo instituta azotnoy promyshlennosti i produktor organicheskogo sinteza.

(Nitroglycerin) (Polarography)